

**BEFORE THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BOARD OF APPEALS AND INTERFERENCES**

In re Patent Application of: )  
Richard E. Hunter et al. )  
Serial No.: 09/846,994 ) Examiner: Davis D. Hwu  
Filed: May 1, 2001 ) Group Art Unit: 3752  
For: ***Rotor-Type Sprinkler with*** )  
***Turbine Over-Spin Prevention*** ) Confirmation No.: 3915

## **BRIEF ON APPEAL**

BOARD OF PATENT APPEALS & INTERFERENCES  
Director for Patents and Trademarks  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Dear Sir:

This brief is submitted pursuant to 37 C.F.R. Sec. 41.37. A Notice of Panel Decision from Pre-Appeal Brief Review was mailed September 29, 2006, declining to withdraw the rejection of Claim 1, the lone remaining claim presently under consideration. In an Office Action mailed January 19, 2007, prosecution on the merits was reopened. Applicants' have chosen to initiate a new Appeal, as suggested therein, by filing concurrently herewith a Notice of Appeal. Fees previously paid for the earlier Notice of Appeal and Appeal Brief are applicable to this new Appeal, according to the last Office Action.

The subject patent application has been pending for more than five (5) years. Accordingly, this application, including all proceedings before the examiner and all appellate proceedings within the USPTO, are to be handled on an expedited basis because the case is effectively a *special* status case. See MPEP §707.02 and MPEP §708.01(l).

## ***I. REAL PARTY IN INTEREST***

The real party in interest is Hunter Industries, Inc., a Delaware corporation, the owner by assignment of all rights to the subject invention.

## ***II. RELATED PROCEEDINGS INCLUDING APPEALS AND INTERFERENCES***

There are no prior and/or pending applications, patents, appeals, interferences or judicial proceedings known to appellants, their legal representatives or assignee which may be related to, directly affect, or be directly affected by, or have a bearing on, the Board's decision in this appeal.

## ***III. STATUS OF THE CLAIMS***

Claim 1 is the lone pending claim in this application presently on appeal. All of the remaining have either been canceled or withdrawn from consideration. The status of each claim is as follows:

Claim 1	pending
Claim 2	withdrawn
Claim 3	canceled
Claim 4	withdrawn
Claim 5	withdrawn
Claim 6	canceled
Claim 7	withdrawn
Claim 8	withdrawn
Claim 9	canceled
Claim 10	withdrawn
Claim 11	withdrawn

Claim 12	withdrawn
Claim 13	withdrawn
Claim 14	withdrawn
Claim 15	withdrawn
Claim 16	canceled
Claim 17	withdrawn
Claim 18	canceled
Claim 19	withdrawn
Claim 20	canceled
Claim 21	withdrawn
Claim 22	withdrawn
Claim 23	withdrawn
Claim 24	withdrawn
Claim 25	withdrawn
Claim 26	withdrawn
Claim 27	withdrawn
Claim 28	withdrawn
Claim 29	withdrawn
Claim 30	withdrawn
Claim 31	canceled
Claim 32	canceled
Claim 33	canceled
Claim 34	canceled
Claim 35	withdrawn
Claim 36	withdrawn
Claim 37	withdrawn
Claim 38	withdrawn
Claim 39	withdrawn
Claim 40	withdrawn

#### **IV. STATUS OF AMENDMENTS**

No amendments have been filed subsequent to the Office Action mailed January 19, 2007.

#### **V. SUMMARY OF THE CLAIMED SUBJECT MATTER**

As explained in the background section of the specification (page 2, lines 4 - 20), when valve-in-head sprinklers or “rotors” installed in golf courses are winterized, pressurized air is used to remove the water from the buried pipes and sprinklers so that it will not freeze and damage these parts of the irrigation system. During this winterizing operation, the pressurized air spins the turbine of a rotor at a much higher rate than when it is driven solely by pressurized water. In the absence of water, which acts as a lubricant, the turbine can over-spin, causing plastic bearings to melt, turbine shafts to break, and/or damage to related nozzle drive components. Similar problems can occur when golf course irrigation systems are re-activated in the Spring when surge conditions are created by a mixture of high pressure water and air.

Referring to Fig. 3 of the drawings, (reproduced hereafter for convenience) and page 6, line 16 through page 7, line 4 of the specification, a sprinkler (60) comprises a riser (62) for receiving a pressurized fluid and a nozzle, which is not illustrated in Fig. 3. Persons of ordinary skill in the art reading the specification would understand that the nozzle referred to in Fig. 3 can be the same as the nozzle (16) mounted in the head or turret (18) at the upper end of the riser (10) for rotation about a vertical axis, as clearly illustrated in Fig. 1, and described on page 4, lines 11-13. Claim 1 further calls for means for mounting the nozzle at the upper end of the riser for rotation about an axis. Again, persons of ordinary skill in the art reading the specification would understand that the embodiment of Fig. 3 can have the same nozzle mounting structure as the embodiment illustrated in Fig. 1 in which this means includes a head or turret (18) at the upper end of the riser (10), the lower end of the turret (18) being supported on a tubular shaft (unnumbered in Fig. 1). See page 4, lines 11-13. Claim 1 further calls for a turbine (64) mounted for rotation inside of the riser (62). Claim 1 further calls for drive means for connecting the turbine (64) to the nozzle (unnumbered in

Fig. 3) so that rotation of the turbine (64) by the pressurized fluid will rotate the nozzle (unnumbered in Fig. 3). The drive means of the Fig. 3 embodiment includes a gear train reduction (66). Persons of ordinary skill in the art would also understand that the drive means of the embodiment of Fig. 3 further includes a reversing mechanism and an arc adjustment mechanism as is well known in the art, and which are disclosed in seven U.S. patents incorporated by reference on page 4, lines 20-22. Finally, Claim 1 calls for a valve (flow tube 70, inlet orifice 72, cylindrical float 74 and slotted transverse member 75) that prevents, by selectively re-directing the pressurized fluid around the turbine (64), over-spinning of the turbine (60) when the pressurized fluid is air or a mixture of water and air.

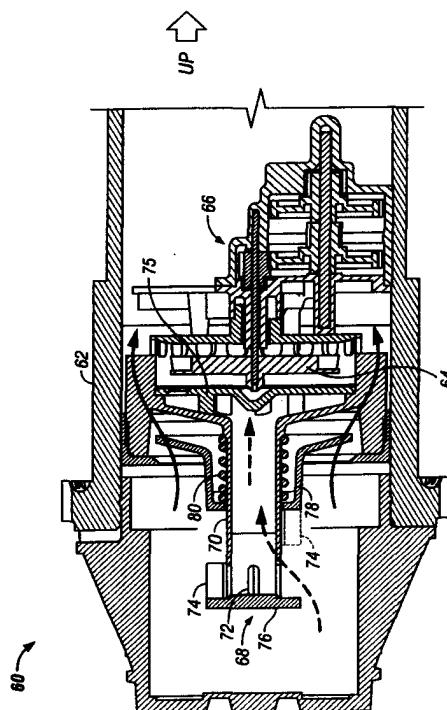


Fig. 3

#### **VI. GROUNDS OF OBJECTION AND REJECTION TO BE REVIEWED ON APPEAL**

The abstract of the disclosure stands objected to "because the means for mounting the nozzle as recited is not defined in the specification."

Claim 1 stands rejected under 35 U.S.C. §112(2d paragraph) for alleged indefiniteness.

Claim 1 stands rejected under 35 U.S.C. §102 for anticipation over U.S. Patent No. 5,375,768 of Clark.

## **VII. ARGUMENT**

The objection to the abstract is not understood. As currently written, the abstract meets the requirements of 37 CFR 1.72 in that it does not exceed 150 words in length, is written to as to enable the USPTO and the public generally to determine quickly from a cursory inspection of the abstract “the nature and gist of the technical disclosure.”

Moreover, the abstract as presently written satisfies the requirements of MPEP §608.01(b). It does not use objectionable, legal phraseology such as “means” and “said.” The examiner indicates that the abstract of the disclosure is objectionable “because the means for mounting the nozzle as recited is not defined in the specification.” The term “means” is not used in the abstract, in compliance with MPEP §608.01(b). Moreover, 35 USC §112 does not require that the specification expressly state what elements, components or structure correspond to a means-plus-function element recited in a claim in the same application. Both the enablement and written description requirements of 35 U.S.C. §112 are satisfied if one of ordinary skill in the art can understand, from the detailed description and drawings, what structure corresponds to a means-plus-function element recited in a claim in a patent application. Clearly, one of ordinary skill in the art, in reviewing Claim 1, would understand that the recited “means for mounting the nozzle at the upper end of the riser for rotation about an axis” could be provided by nozzle (16) mounted inside a head or turret (18) at an upper end of the riser (10) along with the hollow drive shaft to which the turret (18) is mounted, as described in section V above.

Withdrawal of the rejection of Claim 1 under 35 U.S.C. §112, 2d paragraph, is requested. The function of the third element of Claim 1 is clear and unambiguous, namely, mounting the nozzle

at the upper end of the riser for rotation about an axis. The test for whether the specification satisfies the enablement and written description clauses of 35 U.S.C. §112 is whether or not one of ordinary skill in the art would understand the disclosure to provide a clear and unambiguous teaching of structure that performs the foregoing function. The nozzle turret (18) and the hollow drive shaft to which it is mounted, illustrated in Fig. 1 and described in the specification on page 4, lines 11-13, clearly provide structure for mounting the nozzle (16) for rotation at the upper end of the riser (10) for rotation about an axis. While not shown in Fig. 1, or expressly described in the specification, the hollow drive shaft is driven by a conventional reversing mechanism, which is disclosed in six U.S. patents incorporated by reference on page 4, lines 20-22.

Claim 1 stands rejected for lack of novelty over U.S. Patent No. 5,375,768. The examiner's statement, on page 5 of the Office Action dated January 19, 2007, that the valve 62 of the '768 Clark patent is "fully capable of carrying out the same function regardless of whether the fluid is water, air or a combination of both" is fully rebutted by the Rule 132 Michael L. Clark declaration previously filed. The examiner concedes, in the latest Office Action, that the sprinkler of the '768 Clark patent is disclosed as only operating with water, and not air or a mixture of water and air. In order for there to be anticipation, the '768 patent must disclose each element of the claimed invention arranged as set forth in the claim. *Lindermann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984). Moreover, under 35 U.S.C. Sec. 102, anticipation requires that the prior art reference be enabling, thus placing the allegedly disclosed subject matter in the possession of the public. *Akzo N.V. v. United States ITC*, 808 F.2d 1471, 1 USPQ 2d 1241 (Fed. Cir. 1986). Clearly the '768 Clark patent does not anticipate Claim 1.

## **VIII. CONCLUSION**

It is submitted that for the reasons pointed out above, that the objection to the Abstract is improper, that the rejection of Claim 1 under 35 U.S.C. §112, 2d paragraph, is improper, and that the anticipation rejection of Claim 1 over the '768 Clark patent is improper. Accordingly, the examiner should be reversed in all respects.

This application has been pending since May 1, 2001, and has now been the subject of eleven (11) office actions. The result of this Appeal should be a Notice of Allowance, not a new prior art search followed by new rejections.

This Brief is being filed via the U.S. Electronic Filing System (EFS). As stated in the opening paragraph of this document, each of the \$500 fees for both the Notice of Appeal filed concurrently herewith and this Appeal Brief have been previously paid in connection with the prior Appeal. As indicated in the Office Action dated January 19, 2007, the prior fees for the Notice of Appeal filed August 15, 2006, and the Appeal Brief filed October 25, 2006, should be applied to the present Notice of Appeal and Appeal Brief. Please charge any deficit or credit any excess to the undersigned's Deposit Account No. 50-0626.

Dated: February 20, 2007

Respectfully submitted,



By: Michael H. Jester  
Attorney for Appellants  
Registration No. 28,022

*Claims Appendix*

1. A sprinkler, comprising:
  - a riser for receiving a pressurized fluid;
  - a nozzle;
  - means for mounting the nozzle at an upper end of the riser for rotation about an axis;
  - a turbine mounted for rotation inside the riser;
  - drive means for connecting the turbine to the nozzle so that rotation of the turbine by the pressurized fluid will rotate the nozzle; and
  - a valve that prevents by selectively re-directing the pressurized fluid around the turbine over-spinning of the turbine when the pressurized fluid is air or a mixture of water and air.

## *Evidence Appendix*

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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**DECLARATION OF MICHAEL L. CLARK UNDER 37 CFR §1.132**

COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 222313-1450

Dear Sir:

I, Michael L. Clark, hereby declare as follows:

1. I am a U.S. citizen, over the age of eighteen years and competent to make this declaration.
2. Unless otherwise indicated, all statements made herein are based on personal knowledge.
3. I am currently employed by Hunter Industries, Inc. (hereinafter "Hunter"), the assignee of the above-captioned pending U.S. patent application.
4. I have been employed by Hunter for the past twenty-five years.
5. My current position at Hunter is Research Lab Manager.
6. During my employment at Hunter, I have regularly designed sprinklers.
7. I have been granted thirteen (13) patents on irrigation related inventions, including U.S. Patent No. 5,375,768 entitled "Multiple Range Variable Speed Turbine" granted December 27, 1994.
8. The sprinkler disclosed in U.S. Patent No. 5,375,768 does not include a valve that prevents, by selectively re-directing the pressurized fluid around the turbine, over-spinning of the turbine when the pressurized fluid is air, or a mixture of water and air.

9. The valve included in the sprinkler disclosed in U.S. Patent No. 5,375,768 is held closed with a bias spring. With the valve in the closed position, there is no flow path for either air or water, except through the inlet that feeds the turbine.
10. In the sprinkler disclosed in U.S. Patent No. 5,375,768, the valve will open as the pressure delta across the valve exceeds the spring force. The valve actually forces fluid to the turbine when the valve is closed and will continue to bias fluid to the turbine as the valve opens.
11. The valve of the sprinkler disclosed in U.S. Patent No. 5,375,768 includes a small throttling blade that enters the inlet to the turbine as the valve opens. This blade is designed to meter water only. The size of this blade would have little impact on the velocity of air.
12. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful statements may jeopardize the validity of the application or any patent issued thereon.

4/12/2006  
Date

By:

Michael L. Clark  
Michael L. Clark

*Related Proceedings Appendix*

(None)